LOUISIANA Conservationist

LOUISIANA WILD LIFE AND FISHERIES COMMISSION

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Conservation Pledge

I give my pledge as an American to save and faithfully to defend from waste the natural resources of my country—its soil and minerals, its forests, waters, and wildlife

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Front Cover—

Something to look forward to! A skillful wild turkey hunter is shown calling a wily Tom turkey. Careful management of Louisiana's wild turkey flocks assures Louisiana hunters of a spring season for hunting the largest and noblest North American game bird. This picture sparks the interest of turkey hunters, both old and young. (Photo by Jack Britt)

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LOUISIANA WILD LIFE AND FISHERIES COMMISSION

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EDITORIAL

IT SEEMS APPROPRIATE at this time of the year for Louisianians to demonstrate open appreciation for the many diverse recreational and commercial opportunities provided by the state's bountiful natural resources.

In March, the National Wildlife Federation and its many state affiliates throughout the country will observe National Wildlife Week. This special week was first proclaimed in 1938 by President Franklin D. Roosevelt. It has been continued ever since on an annual basis by Presidential proclamation and countless other proclamations at state and local levels.

In Louisiana, plans and preparations have been underway for the past several months. The Louisiana Wildlife Federation has named two cochairmen to bring about wide spread notice to this week-long mid-March observance.

They are Steve Harmon, Chief of Education and Publicity, Louisiana Wild Life and Fisheries Commission; and Walter N. Day, an officer of the Bonnet Carre Rod and Gun Club who has been prominent in conservation activities for many years.

It is only proper that the Louisiana Wild Life and Fisheries Commission play an important part in "behind the scenes" preparations for this special week.

Louisiana ranks in the forefront of those states where recreation and industry go hand in hand. Boasting over 400 miles of coastal waters, fringed by hundreds of thousands of square miles of marshland that melts into rolling high country sprinkled with many types of terrain, Louisiana is unmatched in wildlife resources.

The long uneven coast, spanned in places by islands and laced with coastal bays, is the front doorstep to a green-edged, blue gulf that holds a yet untapped storehouse of fish for both sporting and commercial interests.

During the past few years, sport fishermen have been probing the blue water that is not far from the mouth of the Mississippi River. Less than a decade ago, sailfish were considered rare. Today, Louisiana's big game anglers have their caps set for blue marlin, giant tuna, and white marlin. A whole new frontier has been opened up since the first sailfish was caught less than a decade ago.

L. D. YOUNG, JR.
Director

During National Wildlife Week, the Louisiana Wildlife Federation and the Louisiana Wild Life and Fisheries Commission, along with other organizations and individuals, will try to kill two birds with one stone.

Emphasis will be placed on the preservation of wetlands and the continuance of waterfowling. However, it is also planned to stress the bountiful wildlife that Louisiana offers. This runs the gamut from upland hunting to lowland waterfowling and both freshwater and saltwater fishing.

Every effort will be made to bring the story of Louisiana wildlife to the people of Louisiana, along with the importance of the national program and its objectives.

We hope that when this special week has run its course, the people of Louisiana will have a fuller and better understanding of the economic and recreational importance of wise management of wildlife resources—both on a state level and at a national plane.

Toward that end, there have already been several meetings of the statewide publicity and education committee and the Louisiana Wildlife Federation officers. Groundwork has been laid for Louisiana to have one of the most successful and far-reaching observances of Wildlife Week. We feel that no stone will be left unturned in building such a sound groundwork of understanding of both national and state problems and programs of wildlife management, that the benefits of this special week will be instrumental in weeks and years to come in successful management of both national and state wildlife resources.

The task in which we have joined wholeheartedly is one of great importance. We hope that all of our readers will fully realize this and lend their support to a good common cause that will be expanded and enlarged in the years to come. ✠

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STOP THAT WASTE!

In Louisiana's rich offshore waters

McFadden Duffy

IT TAKES ONLY A DAY with the enforcement inspectors of the Coastal Waste Control section of the Oysters, Water Bottoms and Seafood Division to learn their operations serve a twofold purpose.

In addition to maintaining a constant patrol of oil field installations and drilling operations along the Louisiana coast southwest of Houma clear to the Mississippi state line, they also help oil and gas operators by preventing costly damage to pipe lines.

We discovered this on a single trip aboard the sleek CWC-2 patrol vessel a few weeks ago. The story of what is being done to prevent waste of both fisheries resources and valuable natural resources is a little-known, but extremely important operation of the coastal waste program.

There was a blustery north wind blowing when we arrived at Hopedale to board the CWC-2. Jack Hood, supervisor of the program was at the dock waiting. Steward "Frenchy" Bordelon was at the wheel of the patrol boat. Ralph Paratore, waste disposal inspector in charge of the CWC-2, was also aboard. About the only person missing from this fast-moving, dedicated patrol group was Captain Evans "Junior" Marcel who skippers the CWC-1.

We jumped aboard with cameras and note pads and "Frenchy" eased the patrol boat out of the Hopedale canal and into open water. It was a clear, cold day, one that had come up bright and crisp, with the clouds swept away by snappy early morning wind.

On the trip to the Commission's camp at Bay Gardene, Jack Hood and Ralph Paratore filled us in on the details of the coastal waste control program.

"Enforcement of the coastal waste control program was turned over to the division of Oysters, Water Bottoms and Seafoods by the Stream Control Commission about 14 years ago," Hood explained above the roar of the boat's twin engines.

"The work has continued and with the addition of another boat in July of 1959, we have devided the area we patrol. Ralph has the east side of the river and I operate in the coastal waters west of the river.

"This gives us greater efficiency," Hood explained, "and we are able to cover twice the area in half the time."

The patrol boat made the run to the comfortable camp at Bay Gardene in quick order and the inspectors and their boatmen fixed a hasty breakfast. While bacon and eggs sputtered in the pan, Hood went on with his explanation of the work which the men in Coastal Waste Control activities are engaged.

"Primary efforts of these patrol units are geared to work with, and keep an eye on, oil developments in Louisiana's coastal waters," he said.

The basic objective is to prevent pollution of waters and marshes caused by oil field wastes. These naturally follow all oil explorations, drilling, and the production and transfer of oil and gas by pipe line or by barge.

This pollution is caused by both purposeful or accidental discharge of various harmful wastes. Haste always makes waste. The oil companies are sometimes careless in their relentless exploration and production activities. The harmful wastes we refer to are those having a detrimental effect upon fish, oysters and water bottoms.

Shortly after breakfast, we piled back into the fast CWC-2 and started out on patrol. Jack Hood saw to it that we visited some installations where everything was neat as a pin. Those operations showed that with cooperation and understanding, industry and water use can work hand in glove.

In capsule form, the object of the coastal water control program is to educate mineral operators of the necessity for the proper disposition of crude oil, waste oil, sludge, and oil and chemical-bearing mixtures; and to make continual checks against carelessness, negligence and outright violations.

These rules govern disposal of waste, oil, oilfield brine, and other materials resulting from the drilling for, production of, or transportation of oil, gas or sulphur. They also include the inspection of disposal devices, pipeline valve leaks, barges used for crude oil transportation, loading ramps, barge loading outlets, and similar operations where precautions should be taken against spillage.

As Hood and Ralph boarded drilling installations and inspected storage batteries, it was plain to see that during the decade and more that the program has been in operation, a thread of public relations has been woven into pollution control activities.

A check of current records shows that there is room for improvement, but mineral operators in the CWC patrol areas have been increasingly more cooperative, with arrests for flagrant violations almost negligible.

This was obvious in the way the boarding inspectors were cordially received and actually welcomed. Those in charge were agreeable to any inspection of their operations. In some cases, it was obvious that they had gone beyond the letter of the law in making their operations almost foolproof as far as pollution is concerned. We'll get around to a good example of why the inspectors are welcomed a bit later on.

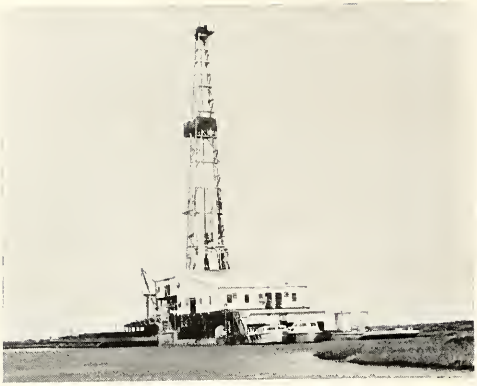
Meanwhile, there's one good point that should be made. Mineral operators are specialists in getting oil, gas, or sulphur from coastal deposits. What they have learned about the impact of pollution, they have gained from the regular and friendly checks made by the coastal water control inspectors.

It has taken more than a decade to reduce the offenses to the present low rate; however, constant patrol and inspection is absolutely necessary to assure that the potential offenders are kept under control.

In the oil industry, and in the sulphur industry, there is a steady turn-over of personnel. As new foremen are moved into the area to replace others and as the turn-over in employees takes place, the job of education and inspection is renewed in many cases.

One prime example of how close inspection in the coastal waste control program helps mineral operators, while serving as watchdog for the Stream Control Commission and the Louisiana

Waste from inland water oil and gas drilling operations is collected in spoilage impoundments where it is best destroyed by burning. It is the duty of coastal waste inspectors to check on spoilage retention as well as on actual drilling and storage operations.



A typical inland water drilling barge in operation. Proper pollution prevention activities by oil and gas exploration and drilling operators allows them to locate "black gold" beneath the coastal marshes and water bottoms without damaging any of the fisheries resources of Louisiana.

Wild Life and Fisheries Commission which carries on the program of inspection was encountered on this fact-finding mission.

As we moved from structure to structure, Hood and Paratore spotted a slick being formed by a leakage in a pipe line. On a calm day it might have been clearly visible to workers on any of the several crew boats rocking at their moorings on the catwalk wharf leading to a huge inland bay.

Hood and Paratore caught the glint of the slick and Bordelon pulled back the throttles of the engines. He backed the patrol boat up and the inspectors took a good look at the slick. It was being formed by a break in a gas line supplying a source of power to the machinery on the storage battery structure.

Jack Hood, left, and Ralph Paratore, coastal waste control inspectors of the Louisiana Wild Life and Fisheries Commission, are shown making a routine check of the pollution gate in the keyway of an inland water drilling barge. A keyway gate checks the flow of chemicals, drilling mud, or other waste into inland waters where oysters and other seafoods abound.

Maneuvering of the patrol boat quickly attracted the attention of workers on the rig. By the time Hood and Paratore reached the catwalk and started for the stairs leading up to the rig, engineers were already checking charts to determine which of the pipe lines indicated trouble. A quick check of gauges confirmed what they suspected. Arrangements were made to cut off the supply from that line and tap into another. The incident caused no halt in the operation at the structure and actually saved the company money.

"They said they knew something was wrong when they spotted us cutting our speed. When we started maneuvering around in the same spot, they started checking up," Paratore explained.

The inspectors pointed out that the company had been formally notified and that they had switched flow of gas to the structure from a reserve line.

Because of choppy water, the company would wait a day before bringing out a barge to raise the broken pipe line and repair it.

On the surface, it would appear that the company was being put to unnecessary expense. Actually, it was a service to them.

Hood explained that when a break occurs in a pipe line that is under tremendous pressure, it starts to twitch much like a garden hose. As the break becomes larger, the vibration causes sections of pipe to work loose. Unchecked, a small break at any section can cause progressive breaks and bring about the loss of a long section of pipe line. This can not only result in detrimental pollution, but also can cause curtailment of operations over a long period of time.

Files are kept on each of the two coastal waste control boats, readily available to the inspectors. Duplicate copies are filed in the main office of the Louisiana Wild Life and Fisheries Commission and in Baton Rouge in the office of the Stream Control Commission. The files kept aboard the boats allow inspectors to have ready access to reports of previous violations and the nature of those violations. ✢

Flamingo in Louisiana

The American flamingo, though several times recorded as having been seen in Louisiana, has usually been mistaken for some other species such as the roseate spoonbill or the wood ibis. It is probably only an accidental wanderer to the state. The only definite authentic record is a single bird seen by ornithologist Waldo L. McAtee at Cameron on the Calcasieu River near its mouth on December 6, 1910.

Rails and gallinules prefer the marshy areas of Louisiana, and coots the shallow open waters of lagoons or lakes. Therefore, these are found in great abundance in the coastal regions.

The Cheniers

Ednard Waldo

CAMERON AND VERMILION Parishes may well be called the "Land of the Cheniers". Together they form the coastline of Louisiana westward from the Atchafalaya basin to the Texas border.

The cheniers, rising out of the vast sea marsh which comprises most of these parishes, rest slightly above the marsh's level. These long, narrow, sandy ridges run slightly parallel to the coast of southwestern Louisiana to form the most conspicuous topographic features of the region. Sharply localized, well-drained, and fertile, they support naturally luxuriant vegetational cover in which large evergreen oaks form a striking part. Quite deservedly, the ridges have been called "cheniers" by their French-speaking inhabitants.

On these sandy ridges lives the bulk of the population of Cameron parish. Many of the cheniers have been cleared of low-growing vegetation. Cotton fields cover large parts of the highest and most accessible land. The lower parts of the cheniers are used for grazing, trapping, and hunting.

The marsh land of Cameron parish has been estimated to be 1,495 square miles, and Vermilion parish, 826 square miles. The estimated area of cheniers is 50 square miles and 20 square miles, respectively.

The cheniers between Calcasieu pass and Vermilion river are the best known in southwest Louisiana. They are sparse in the eastern portion of the area, but they are abundant in the vicinity of the Mermentau river. They begin with the present beach ridges, which are separated only by the Mermentau and by a few bayous connecting directly with the Gulf. On the beach the sand is ordinarily less than six feet in thickness and lies as a veneer upon the marsh sediments.

(Editor's note—This brief article is not an attempt to give a full geologic picture of all Louisiana cheniers but rather to acquaint the reader with what a "chenier" is since no definition was found in any dictionary. Writings of Percy Viosca, Jr., H. V. Howe, R. J. Russell, B. C. Craft, James H. McGuirt and Morton B. Stephenson furnished much of the information and credit is given.)

Cattle are driven along the whole of this beach for the entire eighty miles between South West Pass of Vermilion bay and the Sabine river because the sandy ridge is so continuous, firm and high. Just within this ridge are several cheniers.

The next series of cheniers, passing inland, is typified by Grand Chenier. This series is the most impressive and continuous topographic feature of the region today. It begins with Front Ridge at Calcasieu pass and extends east—under the name of Oak Grove Ridge—to the Mermentau river. East of the Mermentau the ridge is called Grand Chenier. It extends to the point known as Tiger Island in the Constance Bayou area, where it becomes a part of the marsh. Slightly farther east this series of cheniers is known as Long Island and continues under the name of Pecan Island. Only the western part of Pecan Island belongs to this shore line.

Lying immediately north of Oak Grove Ridge is Dans Ridge. Nearly parallel to Dans Ridge is Eugene Island. This chenier is cut off on the east by Grand Chenier Ridge at a point less than two miles east of the town of the Grand Chenier. West of the Mermentau river the chenier forks. Its northern portion dies out under the marsh. The

Separating the Louisiana marshes from the Gulf of Mexico are many CHENIERS scattered along the coast.

southern portion continues with minor interruptions of marsh to Calcasieu pass.

The town of Cameron is situated on the western portion of Cameron Ridge. This ridge, which is wider in the western section than it is farther east, deflects to the northwest. Cameron Ridge reaches elevations of five to seven feet in the western five miles. Elsewhere the ridge rises only slightly above the marsh level. The portion near the town of Cameron has a well-developed soil profile, much of which is cultivated.

The oldest well-defined shore line in the Cameron marsh area is formed by Little Chenier ridge, Little Pecan Island and its eastward extensions: Long Island, High Island, Twin Island and Little Islands. Little Chenier lies from four to six miles north of Grand Chenier and extends from the West bank of the Mermentau river, slightly northwest for approximately twelve miles. Near the Mermentau river, this ridge supports luxurious vegetation.

The cheniers of the south are rather densely populated. The amount of dry land on Little Chenier is so small that houses are typically scattered at wide intervals, except near the western end of the island.

As a beach ridge grows in size, it gradually begins to support vegetation. Few plants will grow on its original sand. However, these few will leave roots which alter the composition of the surface material. New plants unable to take root in pure sand may become established in this sand modified by previous vegetation. Thus the little sand accumulations along the coast in this section are incipient cheniers. If they are given time for sand accumulation, plant and soil succession, they will become oak covered ridges. They will be left on the marsh deposit below and will mark a new shore line of the gulf, leaving the previous cheniers behind them.

In Cameron and Vermilion parishes, cheniers are among the most distinctive features of the landscape. They exist in several belts, more or less parallel with the coast of today. The cheniers are found in several stages of construction or disintegration and burial. Each chenier marks the position of an old shore, probably the inner extent to which the sea advanced over the land at that time.

The advance of the shore of the Gulf southward over Cameron and Vermilion parishes during the period of chenier-forming certainly calls for a geological factor which today is no longer in operation. This factor clearly was that of the discharge of sediment from some large river in the immediate vicinity. Since the Mississippi River is the only stream competent to profoundly affect coastal history in this region, and since it is known to have discharged westward at several times within comparatively recent geologic time, it apparently was the agent causing the southward advance of the shore when the cheniers were formed. The Red River is also known to have discharged through western channels even more recently. It may have had a share in this process.

The advance of the Cameron shore southward during the period of westward discharge of the

This deserted cabin on one of the many Louisiana cheniers was once the winter home of a trapping family.

Hard-surfaced roads, such as the one above at Grand Chenier, are costly projects for the State of Louisiana.

Mississippi and Red Rivers was neither uniform nor continuous. At times the shore line was overwhelmed by sediment and it advanced rapidly. At other times, the advance gave way to retreat as subsidence dominated over sedimentation. The river then found outlets which concentrated sediment westward and then cut other channels giving the western region respite; just as today it will discharge into Mississippi sound for a while and then turn off toward the south or southwest passes.

During periods when the sedimentary load was cut off or diminished, the sea advanced into the land and beach ridges were piled up. If the period lasted long enough these ridges became cheniers. Then an increase in sedimentation caused another advance of the shore southward and the chenier was stranded.

The low areas behind the cheniers were the sites of accumulation of marsh materials. Vegetation grew as it does today. Peat accumulated in places. Brackish-water animals, particularly the clams called Rangias, lived in the bottoms. In places, particularly near western Cameron parish, shallow bodies of water occurred. These were, for a time, sufficiently open to the Gulf to support abundant marine life. Thus the old beds of Mississippi river sediment deposited in the muddy waters of the retreating Gulf are today covered by marsh deposits and the thickness of this cover grows greater as the subsidence continues.

The streams, such as the Mermentau, which drain the land north of Cameron parish, advanced over this low country. They cut downward into the marsh deposits. There, where their channels were sufficiently deep, they spread out into irregular lakes where conditions were favorable for widening and breaching cheniers when necessary to discharge their waters into the Gulf.

The extent of the surface built during the period of chenier formation was greater than it is today. The marsh was built southward from Grand Chenier and the present Cameron-Vermilion coast. Land snails lived in these marshes. Their eroding shells may be found in the muds in the vicinity of Holly Beach today.

Subsidence lowers the cheniers, but marsh deposits accumulate rapidly up to sea level and over their sides. If the deposits continue to rise over the tops of the cheniers, ultimately these ridges will be buried. Chenier du Fond is in this condition. Belle Isle, also, is nearly covered by marsh deposits. Only the highest remnants of the Little Chenier-Little Pecan Island series of cheniers rise above the marsh at present.

The increasing scarcity of cheniers toward the east in Vermilion parish strongly suggests that the greater subsidence of the delta in that direction has carried most of the older cheniers below the level of marsh accumulation.

As previously stated, in addition to the great cheniers which border Vermilion and Cameron parishes, smaller cheniers are to be found resting casually on the Gulf coast west of the Mississippi river and in the marshes of these regions.

To the ordinary observer these cheniers merely look like ridges of shells or sand, sometimes topped with a grove of oak trees, serving no purpose except to break the monotony of the flooded prairies.

To the dweller of the vast, flat, almost treeless plain that extends along the 1500 mile coast line, the chenier means a haven in times of storms and hurricanes, a livelihood, and sometimes a homeplace.

There these inhabitants of one of America's last frontiers build their cabins or houses in the lee of these protective groves wherever they find them. They tie their boats in the canals or lagoons behind the groves, comparatively safe in times of hurricanes and tidal waves.

The small cheniers are to the trapper as the oasis is to the traveler in the desert. The vast marshlands hide a natural fur farm. To get to his quarry, the trapper must find a chenier, build his cabins, and establish headquarters. There he and his family will live throughout the season. If the chenier is large enough to afford room for livestock, he may settle permanently. Many trapping families and others have lived on the cheniers for generations.

If the trapper is not a permanent resident of the marsh at the beginning of the season he will leave his home with his family, load everything they will need on a barge, and chug along the bayous until he locates last year's cabin and reestablishes on a remote chenier. There the entire family will aid in the preparation of the pelts of raccoon, mink, otter, muskrat, and nutria that abound in this area. After the skins have been stretched and dried, they are brought to the market at the end of the season where they are sold at auction.

The cheniers are looked upon with reverence by the old-time marsh men. No one would think of cutting down the trees on the cheniers without expecting dire consequences—so the tales go. One such story is that of Last Island: More than

(See CHENIERS Page 24)

Let's Stop POISONING OUR WATER!

Reprinted from THIS WEEK *Magazine. Copyright 1961 by the United Newspapers Magazine Corp.*

Luther L. Terry, M.D.

Surgeon General, Public Health Service
U. S. Department of Health, Education, and Welfare

WHEN I ENTERED the Public Health Service some 20 years ago, I was taught by the senior physicians of our Corps that whatever else in our environment was dangerous to health, our water supplies were safe. One could go anywhere in our country, turn on the tap, and drink a glass of water without worry. Some of the water might taste like medicine and some of it might be strangely colored, but it couldn't harm you.

Medical evidence, in those days, seemed to bear us out. Typhoid fever, cholera, and the waterborne dysenteries were diseases one read about in medical books or encountered on trips abroad; they were not diseases one expected to treat in private practice. This is still true, incidentally. There probably is not one practicing physician in 50 who has ever treated typhoid or cholera within the continental U. S.

But three dangers—one potential and two actual—are causing us to re-examine our water's spotless reputation.

The potential danger is radiation. So far, we know of no water in the United States which approaches a level of radiation immediately dangerous to health. We are keeping very close watch, and must continue to do so as the uses of nuclear energy increase in the years ahead.

A second danger has to do with the viral diseases. We are by no means sure that at least some viruses are not slipping through our present water purification and disinfection processes and entering our water mains. Hepatitis may be an example. A count of 59,573 cases of hepatitis in the United States through October 14 this year —the highest in history and four times the usual average—is extremely disturbing.

The third danger is something else—something new.

Modern man is living in a new kind of environment which has been largely created in the incredibly short time of 20 years. In this brief period at least a half million new chemical compounds have come into existence. We manufacture these substances, we use them, and when we are done with them, in a good many cases, we discharge them into our rivers and streams or dump them on the ground and let them seep into our underground water supplies. And then, days or months or years later (in minute quantities, it is true), we drink them.

Some of these substances come from your home. In 1947, the housewives of the nation used 275 million pounds of detergents. Last year they used more than 3.2 billion pounds. They also used

(EDITOR'S NOTE—We asked K. E. BIGLANE, Chief, *Division of Water Pollution Control,* Louisiana Wild Life and Fisheries Commission, to prepare a foreword to this timely article.) *Dr. Terry's article "Let's Stop Poisoning Our Water!", brings forth some sobering points on the dangers of water pollution and, frighteningly enough, right here in our own Mississippi River. Many people are unaware that approximately one million people south of Baton Rouge use this great river as a source of drinking water. Most of these one million people remember January, 1960, when all of a sudden their glass of water containing the same familiar, sparkling liquid, tasted "like a hospital smells". Their water had been contaminated by an upstream industry who had inadvertently spilled a large amount of a process chemical into the river. Since that time, the Division of Water Pollution Control, the Louisiana Stream Control Commission, and the State Board of Health, have adopted an early warning emergency network plan derived to help circumvent future spills and accidents involving chemical wastes. This plan, since its inception, has been used successfully to protect water consumers of the Mississippi River, both domestic and industrial. Routine analysis of raw waters of this river are conducted by the Louisiana Wild Life and Fisheries Commission's Division of Water Pollution Control. Additionally, the Louisiana Stream Control Commission carefully reviews the waste discharge characteristics of every new plant that locates on the Mississippi River or any other surface water in the state. Any component of the discharge that may affect the public's health or welfare is stricken from a discharge permit.*

The Louisiana State Board of Health, a member of the Stream Control Commission, is working very hard to rid the Mississippi River, in Louisiana, of its raw sewage load. Baton Rouge is, at the present time, busily constructing sewage treatment facilities and sooner or later New Orleans must follow suit. At this writing, New Orleans is in the process of drawing a preliminary plan for sewage treatment.

In short, we agree with Dr. Terry in "Let's Stop Poisoning Our Waters", but until we do, the water control authorities in this State have pledged themselves to protect the citizenry with all of the vigor at their command.

Clean, unpolluted water brings about fine fishing pleasure and other wholesome outdoor recreational activities.

more bleaches, powders and other household cleansers, much of which went down the drain and into the nearest waterway.

Others of the new substances come from farmlands. Every rainfall washes fertilizers, herbicides and pesticides off the crops and fields and into the streams and rivers. Unlike most other forms of pollution, these cannot be traced to a single source.

Still others come from factories. All industrial production has increased 65 per cent since 1947, and the chemical industry's production has increased 176 per cent. Use of plastics, one of the major types of chemical product, has increased from 277 million pounds in 1940 to over six billion pounds last year.

The most disturbing thing about these new substances is that nature cannot handle them as efficiently as she handles human waste and other impurities of natural origin. Fish, plants, moulds, bacteria and other living organisms in water can, in time, break down any natural impurity and use it as food. But for many of the man-made compounds, there seems to be no organism that can give us a helping hand. Once these substances get into the water, they are diluted, but they persist for long periods of time.

DETECTING POISON

The Public Health Service maintains a constant watch on the interstate rivers and streams in our country. Health workers row out in boats, go to the end of city piers, or walk along beaches and shores and collect water samples; the water is then tested for different impurities and poisons and for radiation. The individual states supplement these tests in their own waters and a number of city health departments and other agencies also test water.

The durability of some of today's new substances was dramatically demonstrated by one incident not long ago. Headquarters for our national water-quality network is at the Robert A. Taft Sanitary Engineering Center in Cincinnati. One day a water sample from St. Louis produced a peculiar mark in a routine infrared test procedure. A week later the same mark appeared in a test made from water sent in from New Orleans.

This put our Taft Laboratory water "detectives" into action. They tracked the substance to a factory in St. Louis—it existed in no other place. The chemical had traveled hundreds of miles in the Mississippi River without undergoing any change, and showed up in one liter of water taken from the billions of gallons of water which pass New Orleans every day.

The equipment that has worked efficiently to purify drinking water does not always remove today's new contaminants. You yourself may have noticed that sometimes the water you draw from the tap foams in your drinking glass, almost like beer. The foam sometimes results from detergents that have passed through upstream sewage treatment plants and your city's water purification equipment. No one knows how many other chemicals pass through, since most of them are not obliging enough to foam, taste, smell or add color.

We have also found that when different substances are poured into the same stream they sometimes get together and form weird new compounds which defy analysis. Chemists refer to them by the unappetizing term, "gunk."

A town in Alabama a few years ago had an especially bad problem with "gunk." A textile mill had been operating there for years and, although it discharged some waste into the river, the town's water supply had not been affected. Later, a plant that manufactured pesticides opened. It too used the river, also in a way that did not affect the water quality. Still later, a bleachery was established. This industry was equally careful about disposing of waste.

SOLVING THE MYSTERY

As far as any scientist could tell, the waste disposal practices of all three industries were entirely safe. But soon after the bleachery opened, people began to complain about taste and odor in their water. Moreover, the physicians of the town noted an increase in patients suffering from nausea and digestive disorders.

When water samples were studied more intensively, it was found that discharges from the three industries had combined to form a new, and harmful, chemical. Once the cause was found, the industries changed their disposal practices and the water in this town is now apparently safe and palatable.

Any program which provides adequate protection for our water supply must be based on three things.

First, we must put to greater use what we already know about water pollution control. How can we hope to control new impurities unless we first do a better job of treating city sewage and controlling those kinds of industrial pollution which we already know how to handle? We have a vast amount of practical knowledge about pollution control. Yet, 5,100 U. S. towns and cities and an estimated 6,000 industries today lack adequate sewage and waste treatment facilities. Many have none at all.

During the past summer, the Congress enacted new legislation which will strengthen our hand in pollution-control enforcement and also provides individual cities more financial aid in building sewage-treatment plants. This is the Federal program; it can work well only if the states, local communities and industries fulfill their responsibilities.

Second, we must continue and increase our surveillance of water. Unless we know what is going into our rivers, streams and lakes, we cannot do an adequate job of keeping them clean. This means establishing water-quality criteria and measuring the usability of water against them.

Third, we must increase our research activities. The new Federal Water Pollution Control Act provides more funds for research, and every cent of these new funds is needed. We must be able to identify the wastes going into our streams. We must know what they are doing to the public health, to the country's industrial growth, to agriculture, and to our precious fish and wildlife environment.

Some of this research will take strange forms. Already our scientists are working on new and strikingly different ways of cleansing waste waters. Under trial are some methods such as distilling and freezing, similar to those being used for taking the salt out of sea water. Other experiments are quite different. One fascinating possibility — under serious study and working very effectively in the laboratory—is electrolyzing of sewage. It breaks water into hydrogen and oxygen, leaving everything else behind, and then puts these two elements together again as new —and clean—water.

I see no reason, scientific or economic, why we cannot protect our water supplies and our air, as we now protect our food. I cannot believe, as a physician and as a government administrator, that the water supplies of this country cannot be kept safe, clean and suitable—not only for health and economic growth but for important recreation and conservation values as well.

Pollution can bring about unnecessary "fish kills", resulting in stagnation and loss of both game and commercial fish.

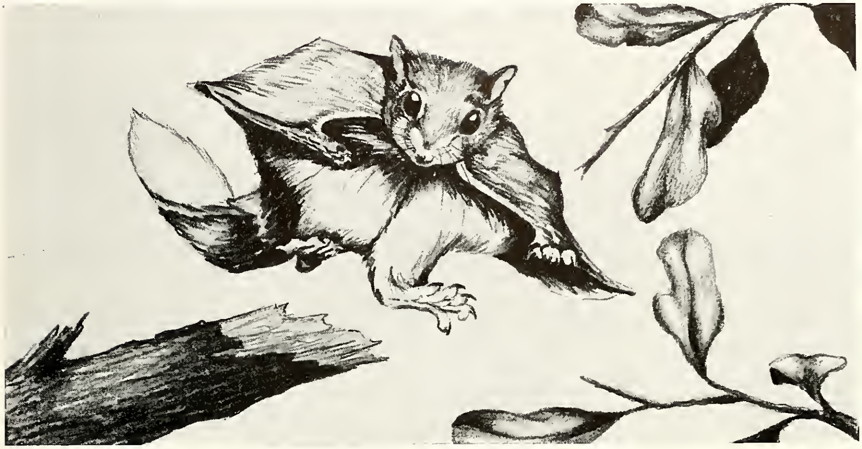
It will cost money, it will require a great deal of research, it will call for the support of every citizen and every local and State government. But it is a job which can be done and I am sure will be done. Our civilization, which has worked so many miracles, can surely protect itself against its own poisons. ✣

Fishing Hints!

Where are the fish hiding? That's a question that needs answering, most anglers will agree. Well, here's one answer that's certainly worth a try. If you're looking for a school of big bass (and who isn't?), go out to the center of a likely lake just before sunset. Watch for flat water surrounded by a slight ripple. This is the clue that there's a dropoff on the bottom below. The calm water indicates the shallow area. Work your lure in one of these spots for a lunker largemouth.

Even if he prefers snuff, the wise angler always carries a pack of chewing gum in his tackle box. Here's why. When a fussy bass refuses to take any of your fly offerings, place a small piece of gum on a bare hook. Hold it over a match flame until it becomes sticky. Then catch some of the flying-type flies in the area. Stick one on the gum and cast it out. The fish are almost certain to show interest.

Louisiana Wildlife



FLYING SQUIRREL

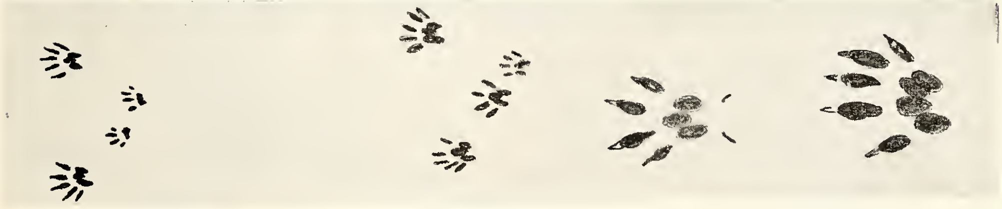
Glaucomys volans

The flying squirrel is distinguished from other squirrels by a loose fold of skin, called the flying or gliding membrane, attached from the fore legs to the hind legs.

The flying squirrel's tail is horizontally flattened. His soft thick body fur is gray to brown on top of a black base, with white intermingled underneath.

This squirrel's diet consists primarily of vegetable matter, such as fruits, berries, mushrooms, nuts, acorns. Occasionally he consumes moths and beetles.

The flying squirrel lives in heavy timberland, such as pine, oak, or hickory forests. He prefers dead trees which contain woodpecker holes and cavities in which he can nest. These holes are usually one foot in diameter. Occasionally these squirrels nest in attics and bird houses. The flying squirrel makes a high-pitched "Tseet" sound, squeals, and chirps. His total length is 8 to 11 inches.



HOPPING **FRONT FOOT** **HIND FOOT**

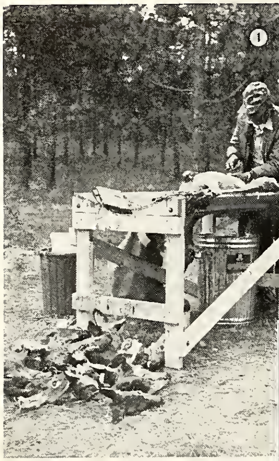
Hind Foot—1 inch to 1¼ inches

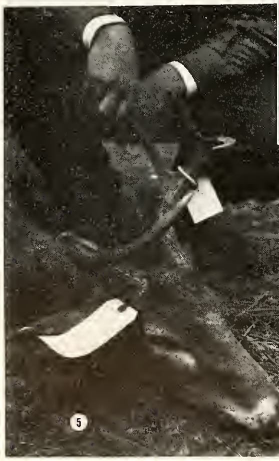
Scrapbook

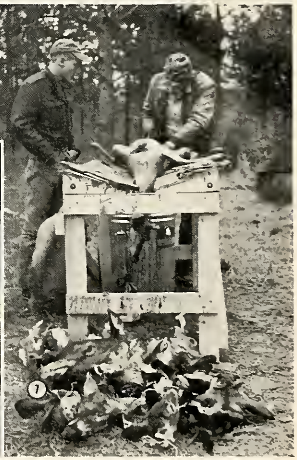
Sidney A. Gauthreaux, Jr.

Camping and Hunting in a LOUISIANA

(Photo Feature by Joe L. Herring)







1. Game Management Area Supervisor of Red Dirt removing the reproductive organs from a female deer. The table was especially constructed to hold the deer in the position shown.
2. Louisiana Wild Life and Fisheries Commission personnel get the age of an eight point buck killed on controlled Red Dirt deer hunt. Note the big game tag on the right antler of the animal.
3. Biologist Clyde Harrison aging an eight point buck killed on the Red Dirt Game Management Area controlled hunt. The age of the deer killed in relation to their weight and antler formation is used for deer management purposes.
4. The lucky Red Dirt deer hunter looks on while biologists get the age of his deer. Accurate information is collected from all deer killed for deer management.
5. A properly marked deer with a game management area tag on right antler and big game tag on the left.
6. Assistant Chief of Fish and Game Division Ted Ford supervises Clyde Harrison, biologist, in getting the age of an eight point buck.
7. The reproductive organs of the does are collected to check on past reproduction. The heads in the foreground were collected during the controlled deer hunt on Red Dirt to check for a brain worm that is known to infest deer.

GAME MANAGEMENT AREA

1. George Barnhill, 15 year old nimrod from Marthaville, La. killed this 98 pound live weight deer on Red Dirt Game Management Area the opening day. George's deer was the second deer checked in and was 1½ years old.

2. Hunter at camp making plans for the day's hunt. La. Wild Life and Fisheries Commission provide camping areas next to some Game Management Areas for the convenience of hunters. Biologist in background tells the hunters of regulations pertaining to Red Dirt.

3. The fourth deer weighed out on Red Dirt Game Management Area was killed by Robert E. Reeder, Natchitoches, La. Reeder's deer was 5½ years old, weight 136 pounds live

4. Louisiana Wild Life and Fisheries Commission personnel aging a buck killed during the Red Dirt controlled deer hunt. Slitting the jaw of the deer facilitates more accurate aging of the deer. Accurate records of data collected are necessary for proper deer management.

5. First deer checked in on Red Dirt Game Management Area during the 1961-62 season was killed by Charles Cobb, Shreveport, La.

6. Hunters preparing camp at camping area outside of west gate on the Red Dirt Game Management Area located in Kisatchie National Forest in southwest Natchitoches Parish.

7. Charles Duke, Natchitoches, La., was a proud hunter when he brought down this 9 point 5½ year old buck. Charles' buck, empty, weighed 133 pounds. Good antler development on this deer as well as others denotes good management practices used on Red Dirt Game Management Area.

The author checks the daily flying route while under the wing of the waterfowl census plane.

Aerial Waterfowl Surveys

Morton M. Smith

MALLARDS 10, blue-wings 5, baldpate 25, mottley's 2—gimme 2 smiling mallards and 2 more mottleys. . . . . end of transect 4, time 13:43. Begin transect 3, south to north, time 13:50 mallards 2. . . ."

Does this sound strange to you? It was taken from a recording made on a flight over southwest Louisiana during one of the periodic aerial surveys of the state's waterfowl population. The routine is familiar to pilot Nelson Summerell and the author who gathered the information during the flight.

These aerial surveys of Louisiana's waterfowl population were started in 1951 by the Pittman-Robertson Section of the Fish and Game Division. The work has continued to the present time and over the years has provided much information of value in the management of the state's waterfowl population.

The most frequent question the aerial crew hears is "How do you count the ducks?"

The state's waterfowl habitat is so vast and inaccessible that the only feasible way to cover it is by airplane. Even so we cannot look at every acre and count every duck.

Instead a regular route is followed over the marsh (we call it a transect) and all ducks seen in a strip one quarter mile wide are counted. In addition all waterfowl concentration areas in the state are checked and an estimate made of the total number of waterfowl seen. The figures obtained are not exact but do provide usable information for management purposes.

Climb aboard with Nelson and me and John Manard and let's make a short flight over part of southeast Louisiana. This is John's first plane ride and it may be your first flight too.

Nelson checks the plane and the weather while I set up the recorder and give John a little help in fastening his seat belt and a few words about emergency procedures. There is not much wind but the sky is overcast and the ceiling not too high and Nelson says we may have some fog at the mouth of the river.

"79 Delta cleared for takeoff" and we roll down runway 13 in the Cessna 180 and head straight out for Paris Road and the Intracoastal Canal—the start of transect one. Nelson drops down to 100 feet, pulls a notch of flaps and slows down to 90 m.p.h.

We fly just above the new seaway from New Orleans to the Gulf and agree again that this transect will have to be relocated. Progress has pretty well finished one more duck marsh.

John is a bit excited at the low altitude flying and also at the scattered flocks of ducks boiling up under the plane. At this speed and altitude we can identify the ducks as they flush. He may feel a little forgotten but the work requires our undivided attention in the front seat.

The old town of Shell Beach ends transect one and starts transect two. The line turns south in the direction of Port Sulphur and crosses the seaway and then the Bayou Loutre ridge. John does not see the soaring buzzards but Nelson does and we skirt these hazards to low level flight and continue on across the salt marshes of St. Bernard and Plaquemines Parishes. The big flocks of "dosgris" must be Lake Borgne and the Sound today because ducks are scarce here.

We soon see the water tower at Port Sulphur—an old friend and a guide post in the flat marsh land. The plane roars over several oyster luggers and the crews either wave or wonder what a wheel plane is doing so far from land. We think about this too at times but not right now. The overcast is solid and is getting lower so Nelson calls Pass-a-Loutre on the radio. Ellis Loga, the manager at the Pass-a-Loutre Public Hunting Grounds, says the weather there is OK, so we push on.

Transect two ends just short of the Mississippi River and we turn southeast and follow the east bank over Quarantine Bay and Grand Bay and then the flats at the end of Baptiste Collette. We are suddenly in the fresh marshes of the Mississippi delta and blue and snow geese and ducks are everywhere. The geese are mostly along the coastal rim and so are many of the ducks. Gadwall, baldpate, pintail, teal and shovelers are the most numerous ducks. The route follows the rim of the delta to South Pass and then up past the Sulphur Company plant on Dennis Pass to the Main Camp. There is a small dirt strip on the North Pass bank. It is not too wide, what with the willow trees on one side and the river on the other, but we are glad it is there for landing places are scarce in the marsh.

Ellis hears us roar over and says coffee is made, but we thank him and take a rain check this time. Nelson has been listening to the weather report and it seems advisable to get on back to New Orleans. A stretch and a break would feel good now though.

John has spotted a big gator in a marsh pond above Pass-a-Loutre and we show him two more. Nutria are everywhere and we buzz a herd of marsh deer. We can spot them easily on this overcast day and John sees quite a few traveling north over the Delta Refuge. Some of them have racks that any hunter would be proud of.

We are flying over large numbers of all kinds of ducks and great flocks of poule d'eau. John says "there are a million ducks in the last big lake back there." I tell him a million is an awful lot of anything but he is not convinced. I ask him to show me the next flock of 1,000 that he sees. He soon yells "there's a thousand." I think the flock is smaller but tell him "OK, that is one—now you need to count 999 more just like it to make your million." John gets busy counting but I know he won't make it on this flight.

Soon we reach Venice and the line turns west on transect four. Then north back to Port Sulphur where we can see the large blocks of sulphur, then west, then north over Lake Hermitage and across the Mississippi River and on to Lake Lery. From here we can see our last marker—the old white chimney at Caernavon.

Nelson climbs for altitude over the river and we can stop counting ducks. We pass the Channel 6 TV tower on Parish road and the Kaiser stack and soon touch down at New Orleans airport. It is just a little over 3 hours since takeoff and John is ready for more.

We will make the big jump over southwest Louisiana tomorrow, weather permitting, and John will see a real million or two million ducks and probably won't believe his eyes. The flight will take seven long hours but we may stop at the cow pasture near East End Camp at Rockefeller and take a break and eat some good fried shrimp. Maybe Ned Crain and Bob Chabreck

Millions of acres of Louisiana marshlands provide a winter home for many species of migratory birds.

The roar from the engine of the waterfowl census plane lifts thousands of scaup from the open water in Southwest Louisiana.

A man, a dog, a gun and a limit (1960 season) of big ducks from the fabulous Louisiana Marsh.

and our other friends at Rockefeller will come over for a little coffee with us.

If the day after tomorrow is calm Buck Davis, John and I will climb in the twin engine amphibian and try to make some counts on the flocks of scaup in the lakes and sounds along the coast. We will see a million or more "dos-gris" but it is a big gulf and how do you know whether you have seen them all or not? Then come the north Louisiana areas and another aerial survey of the state's waterfowl population will be finished.

When all the flying is done, a day is spent in the office working up the figures and preparing a mimeographed report that summarizes the size, distribution and composition of the state's waterfowl population.

It is a lot of work and takes a lot of time and money. But the whole purpose of the surveys is to gather information that we hope will lead to better duck hunting for the sportsmen of Louisiana. That objective is well worth the Commission's efforts. ✠

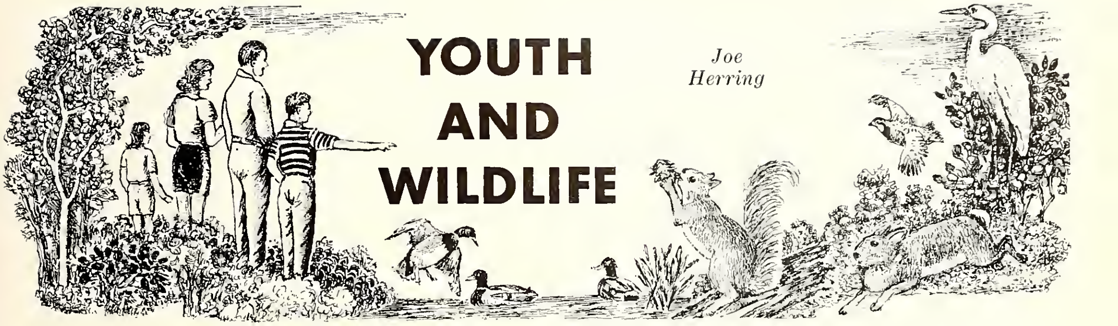
Wildlife Shorts

Algae, the tiny green aquatic growth often seen on ponds, could supply fresh oxygen and food for men aboard an orbiting space laboratory. This facet of space exploration is covered in the new MAN IN SPACE exhibit at The American Museum of Natural History in New York. A full-scale, 5½-ton satellite laboratory as big as a house is featured. The free exhibit is open to the public daily.

Although a young cottontail rabbit has only one chance in twenty of reaching its first birthday, it is one of our most common animals.

No other big game animal in North America is as widely known and hunted as the whitetail deer. There are almost four and one-quarter million of them in the United States.

Raccoons usually live near water in timbered areas. Hollow trees are favorite denning places and they eat many small aquatic animals.



YOUTH AND WILDLIFE

Joe Herring

FELLOWSHIPS, GRANTS, SCHOLARSHIPS AND LOANS

February, and a time to think about the future, that's the thought of many high school students. Wildlife Instructors have been asked, when presenting programs, what is available in scholarships, loans, fellowships and grants for one wishing to attend college. This has particularly been true for those students in their sophomore, junior and senior years of high school.

Many clubs, groups, schools and organizations of various types offer help for students wishing to further their education. Scholarships, fellowships, grants and loans cover many subjects in the wildlife field. Some of these are listed under the following headings: animal science, biochemistry, biology, botany, conservation, education, engineering, fisheries, forestry, Ichthyology, museum, natural science, oceanography, photography, science, wildlife and zoology.

Some organizations that have such scholarships available for which students in Louisiana may apply are, the Louisiana Wildlife Federation, Wildlife Management Institute, Louisiana Outdoor Writers Association, and Louisiana State Department of Education. Other organizations that offer school assistance are, American Society of Ichthyologists and Herpetologists, American Legion Auxiliary, National Wildlife Federation, and various civic organizations throughout the state. Aids from such groups vary from $100 to $1200 per semester.

After a discussion with students on the various aids that are available for college studies, the student then asks how to apply. There are three sources of aids, nonacademic organizations, colleges and universities, and government.

Non academic aids are those aids given by civic groups, wildlife groups, funds, foundations, trusts, cooperative business organizations, and others. The student desiring aid from such organizations may contact local groups to find out what is available. It may be wise to spend some time in the school library seeking additional information on various groups that offer aids in education.

A student may write directly to the college or university of his choice for information about scholarships and other financial aid. In writing, correspondence should be addressed to the Director of Admissions.

Next a student interested in financial aids to attend college may contact governmental agencies. A student may write to the State Superintendent of Education to seek information on types of scholarships, fellowships, grants and loans that are available.

Students should first contact their science teachers and guidance counselors so that they may be directed toward the right source for aid. Many schools keep files on organizations and groups that offer assistance.

When scholarships, fellowships, loans or grants are not available, students may find part time employment in laboratories or field work.

CAREER BOOKLET AVAILABLE

Careers — Commercial Fishing in Louisiana is the most recent publication of the Louisiana Wild Life and Fisheries Commission. This 20 page book covers many of the careers in commercial fishing that young people may be interested in. "Careers" has good reading text, photographs, and is educational. Copies may be obtained *free* by writing L. W. & F. C., Information and Education Division, Room 307, Old Peabody Hall, State Capitol, Baton Rouge, Louisiana.

WILDLIFE INSTRUCTORS ACTIVITIES

Wildlife programs were popular in schools during November. Throughout the state Wildlife Instructors presented 171 programs to 5,704 students. Elementary, Jr. High, and High Schools all received programs. Programs are presented when requests are made by school superintendents, principals or teachers.

VISUAL AIDS FOR INSTRUCTION PURPOSES

Microscopes, chemistry sets, laboratory technician sets and astronomical telescopes are available through the A. C. Gilbert Company, Erector Square, New Haven 6, Connecticut or your local hobby store. These sets are instructional and young people can use these items to become acquainted with much of mother nature's beauty. All items are reasonably priced and educational.

READ WITH ME

For elementary school students the *Standard Treasure of Learning with Funk and Wagnalls Dictionary for Young People* is most helpful. Nature subjects are defined very well with excellent reading for our youth. The dictionary is in twenty volumes and published by the Standard Reference Works Publishing Co., Inc., 53 East 77th Street, New York 21, New York. To see these contact your local book store or agency.

The Ouachita Unit of the Louisiana Wildlife Federation presents a $100 scholarship each semester to the outstanding biology student at Northeast State College. Recipient for the fall term semester was Miss Caron Mulhern of Rayville. Mr. A. S. "Bud" Tidwell (left) past president of the club presents the scholarship as Prof. Ed Whatley of the Northeast State College biology department looks on.

The loblolly-shortleaf pine type area can produce an abundance of timber and deer forage.

Piney Woods Deer Research

Robert M. Blair and Louis Brunett[1]

A LITTLE OVER a year ago, bulldozers and fence construction crews invaded a secluded piney woods area about six miles south of Winnfield. The noisy activity in this otherwise quiet setting marked the beginning of a joint research effort by the Louisiana Wild Life and Fisheries Commission and by two units of the United States Forest Service.

The main objective of these agencies is to find how many deer can be grown in well-stocked timber stands of central Louisiana. Also, they want to learn what kind of plants deer like best, how different concentrations of deer affect range vegetation and forest regeneration, and how to tell whether a deer range is properly stocked.

Foresters call this the loblolly-shortleaf pine type. It is one of the finest pine forest types in the South for growing game and timber, because it can support both a tall growth of pines and a dense understory of shrubs, vines, and small trees that provide excellent forage and cover for deer. Louisiana has large acreages of such forests (see accompanying map), and the deer population in them is increasing rapidly.

To achieve the purposes of this cooperative investigation, the Wild Life and Fisheries Commission constructed three 160-acre enclosures for stocking with known numbers of female deer. Last winter eight young does were placed in one

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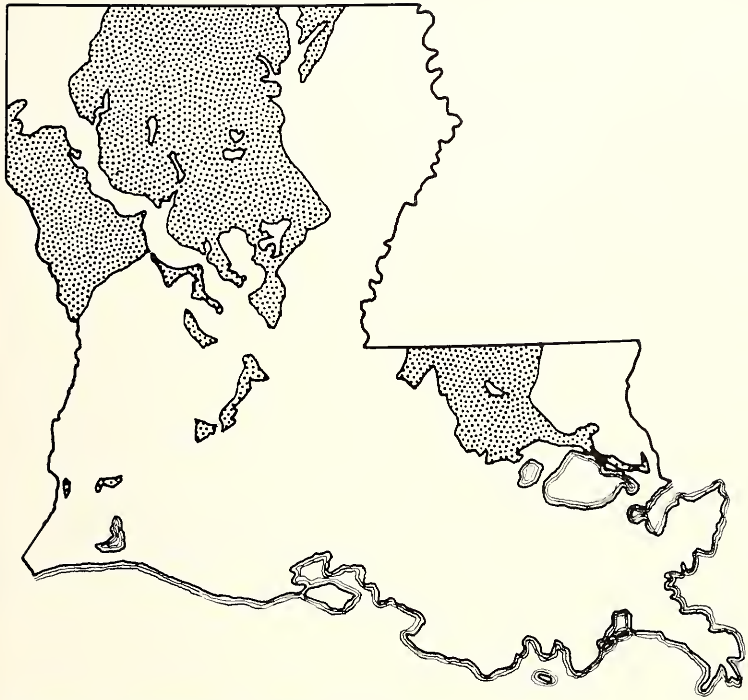
[1] *Mr. Blair is a member of the Southern Forest Experiment Station, Forest Service, U. S. Department of Agriculture. Mr. Brunett is a game biologist with the Louisiana Wild Life and Fisheries Commission.*

Seven miles of 9-foot-high woven wire fence keep deer within specified areas and exclude livestock, dogs, and unwanted deer.



Louisiana's loblolly-shortleaf timber type (shaded area) contains more than three million acres of top-notch timber land and deer range.

enclosure to represent overstocking and two in another to represent understocking. Four deer were put into the third enclosure to set up the estimated average for the area. The deer are individually identified by varicolored plastic collars.

Each cooperating agency is responsible for a specific phase of research. Personnel of the Alexandria Research Center — a field unit of the Southern Forest Experiment Station—will find out what happens to the timber and forage. Each year they will measure how much forage is produced by over 150 plant species, what proportions of these plants are eaten by deer, how the size of the acorn crop affects the use of browse, and to what extent deer nip off or trample young pines.

Game biologists from the Wild Life and Fisheries Commission will keep close tab on what happens to the deer. They will capture some of the animals each year to weigh them and check their physical condition. They will also maintain fences and supervise periodic drives to count the deer.

The Kisatchie National Forest will manage the stand for timber. Pines will be the main commercial crop, but hardwoods valuable for lumber will also be grown. Cull hardwoods will be killed if they are directly interfering with pines; otherwise they will be kept.

This study is the first of its kind in the South. It should help to answer many questions asked by hunter, wildlife technician, and forester. As the facts unfold, these groups should be better able to manage forests so as to ensure crops of both game and timber. ✠

Fellowship Grants To Be Awarded

Launching of a new program of fellowship grants in the field of fisheries and oceanographic research was announced by the Department of the Interior. Invitations to participate in the program will be sent to qualified educational institutions and approximately 15 two-year fellowships will be awarded from appropriated funds totaling $200,000.

With this program, the Department said, the Fish and Wildlife Service's Bureau of Commercial Fisheries "hopes to attract and assist the scientific manpower necessary to further its objectives for the Nation's welfare and thus aid the advancement of the overall aims of the National Oceanographic Program, particularly in the field of fishery research."

A panel of six representatives of universities and private research institutes met recently with Department officials to advise on rules, policies, and procedures for making these grants and the scope of research areas to be covered.

Detailed information concerning the Fellowship Grants will be available when recommendations by the committee have been assembled and reviewed. ✠

Letters... Questions... Answers... about WILDLIFE *in* LOUISIANA

conducted by Steve Harmon

Dear Editor: Maplewood

In the December issue there is a story by Grits Gresham entitled "How to Hunt Deer". In the still hunting section of this story Mr. Gresham says it is against regulations to build a tree stand on a game reservation. Apparently this is not common knowledge because I ran across two such stands while squirrel hunting in West Bay this season. This is one of the many advantages of being a CONSERVATIONIST subscriber. As well as entertainment for outdoorsmen, it contains much needed information for hunters and fishermen. Thanks a lot for the best magazine afloat or afield.

K. M. BROGDON, JR.

With regard to the building of tree stands for hunting deer on the management areas, the prohibition against building tree stands has been in effect for approximately two years. We have made considerable efforts in removing deer stands that were constructed in trees prior to the initiation of this regulation. However, it is entirely possible that we may have missed some of the previously constructed stands and I feel sure that the two tree stands you saw on West Bay are simply two we have not yet found. When our employees do locate these stands, they will be destroyed.

In the event that you might be wondering why it is necessary to prohibit the construction of tree stands, it is our intention to protect the timber of the land owners who have allowed the use of their lands for public hunting.

JOHN D. NEWSOM, Chief,
Fish and Game Division

Dear Editor: Fairbanks

I was born and raised in Madison Parish where there has always been plenty of game. I enjoyed all of the things that a boy growing up in the country should be able to enjoy. This state has always, as far as I can remember, provided good protection and preservation for its Wildlife. For this I would like to express my appreciation, for without this my children and all of the children of the younger generation would not be able to enjoy the Wilds of Nature that are so plentiful in this Wonderful State of Louisiana.

Knowing little about what governs the seasons opening dates, I was wondering why deer season was delayed until the day after Thanksgiving. The people with public jobs, such as myself, were unable to participate in the activities of opening day.

I have also written in once to get the LOUISIANA CONSERVATIONIST and have not been placed on the mailing list yet. I would like to get the CONSERVATIONIST so I could keep up with what is going on in our State concerning the Wildlife and Fishing activities.

BRUCE D. BUSH

I have instructed our mailing room to place your name on the list to receive the LOUISIANA CONSERVATIONIST and have checked back to see that the plate was cut.

Regarding the second paragraph of your letter concerning why the deer season was delayed until the day after Thanksgiving; the Commission felt that the majority of families in Louisiana would prefer to be together on Thanksgiving day. Each year members of the Commission and the Director and many of the staff of the Wild Life and Fisheries Commission join with the sportsmen throughout the state in a two-day open forum in Central Louisiana to discuss seasons, bag limits and other regulations regarding hunting in Louisiana. A great majority of those people meeting with the forum last July favored opening the deer season after Thanksgiving day so that families would be together on that holiday.

We certainly do appreciate your kind and complimentary remarks regarding the LOUISIANA CONSERVATIONIST and the work being performed by the Wild Life and Fish-

eries Commission. Of course you realize that the word conservation itself means the wise use of our wildlife and other natural resources.

STEVE HARMON

Dear Editor: Pollock

I am "Doc" Hamilton Nugent, a seventy-three year old native of the Catahoula Lake area. I have hunted and fished Catahoula Lake and its tributaries every year for more than sixty years and feel that I know as much as any man about this area.

My reason for writing this is to implore all with any interest in preserving our fast dwindling hunting and fishing territories to prevent a dam from being put on Black River. My hunting and fishing days are over, but I know the thrills of shooting a duck or catching a fish are still as great to a boy today as they were to me. This will no longer be if a dam is located so as to hold water on the lake.

Ducks must have feeding grounds to remain in an area for any length of time. Holding water on the lake and marshes will destroy the vegetation, grass, nuts, etc., which grow each year when the over-flow water has receded from the marshes surrounding the lake.

The volume of water from Little River is not sufficient to keep fresh a body of water that the proposed seven foot dam will create. It will become salty within a few short years.

No regard is being shown to the great number of people from far and wide who enjoy the fruits of hunting and fishing each year that are abundant in this natural habitat area.

D. H. NUGENT

Dear Editor: Dubach

My nine year old son finds the LOUISIANA WILDLIFE SCRAPBOOK page of the CONSERVATIONIST magazine both interesting and useful in his school work. I would like to know if the article each month comes from an actual scrapbook, and if so how I might get one. He also uses the Bird of the Month page.

I would appreciate any information you might give me concerning these two pages. Thank you for your interest and help. My entire family enjoys the CONSERVATIONIST.

M. R. BRADY

The scrapbook page is the work of Sidney A. Gauthreaux, Jr., a zoology student at LSUNO; the Bird of Month page is by Wildlife Biologist Charles Shaw. We may make both into booklets sometime in the future.

Dear Editor: Vinton

I would like to give my best regards to all the men who are working for Louisiana Wild Life and Fisheries, for the wonderful job they have done enforcing our laws and educating the people of Louisiana on our wildlife. Also I would like to commend our LOUISIANA CONSERVATIONIST, the whole family reads it from cover to cover.

Like all sportsmen though, I've got a "beef", funny as it may seem, (it's not) I can and do buy my Texas non Resident big game hunting license easier than I can get my own state's deer tags. Out here in the Nibbletts Bluff area, most of us men folks work over in Orange, Texas; that means we have to take time off from work to go to Lake Charles to get our "deer tags"—why can't Louisiana sell their deer tags with their hunting license as they do in Texas, also having the deer tags as being optional?

Steve, I don't know whether or not you can do us any good on this subject or not, but maybe you can bring it to the attention of someone who will consider it.

Again, I would like to express my thanks for the wonderful work being done.

DONALD GRANGER

As you know, this is our second season requiring tagging of big game and a little caution was necessary to establish procedure. The first year we did request that the Sheriff in each parish, who is our license agent, issue the big game license from his office only to avoid confusion. We had little idea of the number of licenses which would be required for the state and less knowledge of proper distribution. Consequently we encountered considerable difficulty and confusion. This season we were able to benefit from last year's experience and issuance has been fairly smooth.

Since the sheriff is in charge of issuance of sports licenses, parish distribution is left to his discretion. A letter was sent from this office suggesting distribution of big game licenses to sporting goods and other establishments selling basic licenses. Reports received are that this was done to a limited degree in most parts of the state.

Apparently the sheriffs are also being cautious and do not want to place the big game license in the field without giving thorough personal instructions to each establishment selected by them. I am certain that eventually this license will be as readily obtainable as the other sport licenses.

H. ROGER HUNTER, JR.
Supervisor of Revenue

Dear Editor: Opelousas

I have been having a great deal of trouble with rust on my shotgun barrel. None of the current gun oils seem to help. I would greatly appreciate a suggestion.

BOB

Suggest you try a grease called "Rig", obtainable at most gun stores.

JAMES E. MORGAN
Curator

Dear Editor: Bogalusa

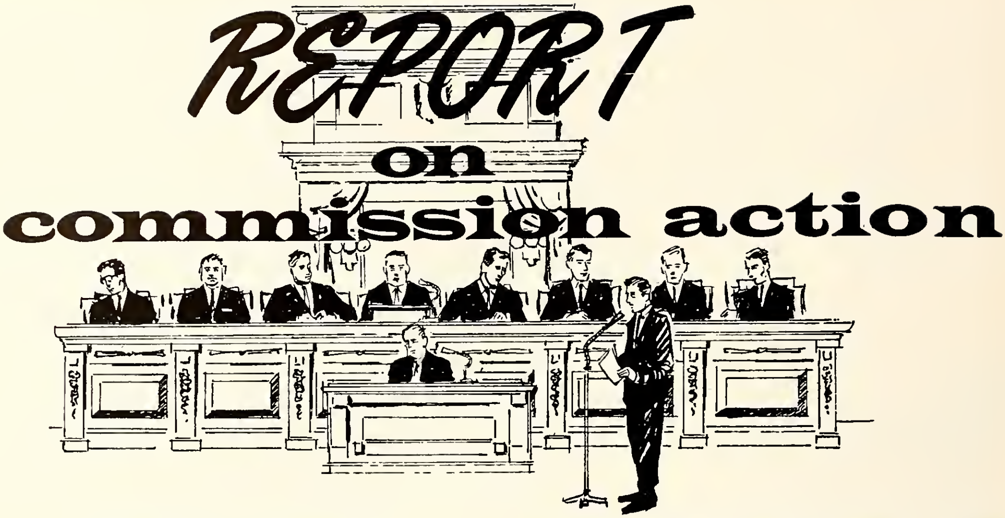
I am enclosing a picture that you might use in the CONSERVATIONIST magazine. Please return it, if possible.

This picture was taken of my barber shop the first day of deer season and we bagged two bucks that day, one five point and one ten point.

I wanted to go with my dogs and so did my two barbers so I just draped the chairs with these buck heads that we had previously killed last year. Hope to see it in your magazine.

ROBERT L. BURDETTE

REPORT on commission action



DECEMBER 11-12 MEETING

Chairman McDonald introduced A. J. Buquet, of Houma, and welcomed him back as a member of the commission. In making the introduction he joined with other commission members in commending Mr. William Denton's many services to the commission on the expiration of his term as a commissioner.

The commission discussed a formal request by Representative Mike John and the Ouachita Parish Wildlife Unit for an extension of the migratory waterfowl season. It was brought out that the commission would like very much to go along with the request but that it had no authority in the matter. Richard Yancey, assistant director, was called upon to comment on the request. In doing so he explained that the length of the season and bag limit was established by the U. S. Fish and Wildlife Service. He stressed the fact that the commission had vigorously protested to the U. S. Fish and Wildlife Service, but that the commission itself had no authority to lengthen the seasons set by the federal government. However the commission went on record again asking the U. S. Fish and Wildlife Service for an extension of the season.

One widgeon aircraft, owned by the state, and operated by the commission, was sold to the highest of seven bidders by the division of administration.

The commission also sanctioned the purchase of one 40-foot work boat for the Marine Laboratory and one Lyman boat for oyster survey work. The director was instructed by the commission to contact the division of administration and request advertisements for bids.

Commission attorney Ellis Irwin interpreted the regulations governing hunting and fishing in Louisiana by persons in the armed forces on active duty in Louisiana. He stressed the fact that Act 190 of 1960 specifically stated "persons in the armed forces of the United States on active military duty shall for license purposes be given resident privileges."

After discussion it was resolved that the commission comply with the request of the United States government to be allowed the use of certain floors, or parts of floors, in the Louisiana Wild Life and Fisheries Building for public use as temporary quarters for the United States courts in the New Orleans district.

A request for permission to dredge shells in Lake Pontchartrain and Lake Borgne made by Roland's Materials Company was discussed and held in abeyance until the January board meeting.

Director Young read a letter from Mr. Howard P. McCollum, supervisor of science in the Department of Education in Baton Rouge pointing that the Louisiana Science Teacher's Association in annual convention had bestowed upon Dr. Lyle St. Amant its highest honor for "outstanding contribution to the advancement of science education in the State of Louisiana."

Allan Ensminger, in charge of public duck shooting at Pass-a-Loutre, reported one of the most successful seasons ever experienced, with the highest average per hunter effort, on any public shooting ground in North America.

Director Young stated that the Louisiana Committee for the Observance of National Wildlife Week, March 18-24 was already functioning and that every effort would be made to bring about full public appreciation of the economic and recreational importance of Louisiana's Wildlife Resources.

Outgoing commissioner Denton informed the meeting that the Terrebonne Sportsmen's League had gathered approximately 700 automobile bodies and requested assistance of the commission in establishment of an artificial reef in the Gulf of Mexico which would attract fish. Chairman McDonald stated that the commission would help in any way legally possible as soon as details were worked out. ✠

First Licensed Field Trial

Dr. Robert Wood

GLOWING AUTUMN WEATHER provided the perfect setting for the first A. K. C. licensed trial ever held in the State of Louisiana. The North Louisiana Retriever Club was the host club for the event, held five miles South of Monroe.

A thirty-three acre lake, with varied cover in and around it was the scene of the major part of the trial, with cut cornfields used also.

Judges for the trial were Gordy Moss, Port Arthur, Texas, and Dr. Charles Leach, Houston, Texas, Open and Amateur; Dr. J. W. Henderson, Port Arthur, Texas, Qualifying and Derby; Dr. Robert D. Wood, Monroe, Louisiana, Qualifying; and C. A. McMahan, New Orleans, Louisiana, Derby.

F. C. Teal Timmy of Glado (Tugney of Oakview ex Peg of Glado, 12/20/56) owned and handled by S. G. Borden Tennant, Houston, Texas, took first in the open, being pushed all the way by Black Jack of Audlon (F. C. Nilo Senator ex Young Black Magic of Audlon 3/23/58) owned by Mrs. Henry G. Keeler, Jr., and handled by Tom Sorenson. This win qualified Timmy for the National Open and Amateur. Third and fourth places went to two Nilo dogs, Pomme d'Terre Pete (N. C. Cork of Oadwood Lane ex Del-Tone Lass 5/26/56) and Country Club Jet Pilot (Nascopie Dark Destroyer ex Rip's Black Shadow 12/5/57) both owned by John M. Olin, and handled by T. W. (Cotton) Pershall.

Amateur honors were taken by a consistent young dog Rebel's Ace, owned and handled by R. C. Hardy of Lake Charles, Louisiana.

In the Qualifying and Derby stakes, two classy looking young females took first. Miss Priss (F.C. Dandy Dan of Repman ex Dianne of Brockmoor 10/4/56) owned and handled by O. R. Savant of Port Arthur, Texas won her second Qualifying stake, and Blondie (listed) owned and handled by Ross Hannon of Tallahassee, Florida, captured the Derby over an impressive field of thirty-three young dogs.

OPEN TESTS: 1st Series—Double mark and blind with honoring, run in cut cornfield. 1st bird popped 20 yards to right of handler, 2nd bird shot 60 yards out directly in front of dog and handler. The blind was 75 yards out on an angle from handler. Dogs honored after completion.

2nd Series—A triple mark on water. 1st duck thrown to right of a boat anchored in cover heavy enough to almost obscure the boat, 2nd duck thrown to left of same boat 55 yards out. 3rd duck directly in front of handler in decoys with handler popping.

3rd Series—Double blind on land and water. Land blind across a dirt road on left side of handler 130 yards out. The land was slightly rolling, with a cover of brown top millet. The water blind consisted of a freshly killed duck anchored 100 yards out in open water, just beyond small button willows.

AMATEUR TESTS: 1st Series—Blind, with diversion bird popped in decoys 20 yards to left of handler. Dog was required to cross 100 yards of running and swimming water and pick up pheasant planted 20 yards up on bank in brown top millet slightly to right of handler.

2nd Series—Wide double mark in cut cornfield. 1st bird a flying hen pheasant 35 yards to left of handler; the 2nd bird a flying cock pheasant slightly angling 50 yards to right of handler.

3rd Series—Triple mark on land and water. 1st bird a flying cock pheasant shot across water on the opposite shore 90 yards away; 2nd bird, a duck 20 yards out to right of handler, with retiring gunners; 3rd bird, directly in front of the handler in decoys, about 10 yards from the line.

OPEN—25 Starters: 1st F. C. Teal Timmy of Glado, B. L., S G. B. Tennant, Houston, Texas; 2nd Black Jack of Audlon, B. L., Mrs. H. G. Keeler, Jr., St. Louis, Missouri (Tom Sorenson); 3rd Pomme d'Terre Pete, B. L., John M. Olin, East Alton, Illinois (T. W. (Cotton) Pershall); 4th Country Club's Jet Pilot, B. L., John M. Olin, East Alton, Illinois (Pershall); C. M.'s to Robbet's Black Hope, B. L., Dr. J. W. Henderson, Port Arthur, Texas; Greatford Bulldozer, B. L., Erle M. Barham, Oak Ridge, Louisiana; Stemwinder of Audlon, B. L., Mr. and Mrs. M. B. Wallace, Jr., St. Louis, Missouri (G. Robert Pidgeon); and Nilo Link Boy, B. L., Lewis R. Callahan, Bel Aire, Texas.

AMATEUR—21 Starters: 1st Rebel's Ace, B. L., R. C. Hardy, Lake Charles, Louisiana; 2nd Buck's Golden Nip, Gold, Mr. and Mrs. M. B. Wallace, Jr., St. Louis, Missouri (G. Robert Pidgeon); 3rd Robbet's Black Hope, B. L., Dr. J. W. Henderson, Port Arthur, Texas; 4th Nilo Link Boy, B. L., Lewis R. Callahan, Bel Aire, Texas. C. M.'s Thunder of Audlon, B. L., Mr. and Mrs. M. B. Wallace, Jr., St. Louis, Missouri (G. Robert Pidgeon); F. C. Teal Timmy of Glado, B. L., S. G. B. Tennant, Houston, Texas; Red River Blackie, B. L., George Robert Pidgeon, Memphis, Tennessee; F. C. and A. F. D. Buenger's Niki of Pawlesta, B. L. F., O. C. Buenger, Jr., Houston, Texas.

DERBY—1st Blondie, Y.L.F., Ross Hannon, Tallahassee, Florida; 2nd Fisherman Bill of Delaware, B. L., Dave Grube, (Tom Sorenson); 3rd Tennant's Curly Boy, B. L., S. G. G. Tennant, Houston, Texas, (Floyd Hayes); 4th Namahbin of Oak Ridge, B. L., Joan and S. A. Williams, Waukesha, Wisconsin, (Joan); Reserve C. M., Bigstone Rip, H. T. Smith (William H. Smith); C. M.'s Topper of Swampland Y. L., Raymond Hubbard, Iowa, Louisiana; Daniel Boone, B. L., Bobby Treadwell, Memphis, Tennessee, (Ford Graham).

QUALIFYING—30 Starters: 1st Miss Priss, B. L. F., O. R. Savant, Port Arthur, Texas; 2nd

Gwen's Missie, B.L.F., William C. Carraway, New Orleans, Louisiana (Gwen Carraway); 3rd Zipper of Clearlake, B. L., Bill G. Lowder, Duncan, Oklahoma; 4th Duke of Tyrell, B. L., Lee Broussard, Beaumont, Texas. C. M.'s to: Greatford Bulldozer, B. L., E. M. Barham, Oak Ridge, La. Tor, B. L., Justin W. Harding, Franklin, Ohio; Deborah Drive Dandy, B. L., Dr. W. B. Liles, Monroe, Louisiana; Gordy's Black Boy II, B. L., Gordy Moss, Port Arthur, Texas. ✠

CHENIERS

(Continued from Page 7)

one hundred years ago, Last Island, directly south of Terrebonne parish, was the last land on the way to the open sea. This island was then 25 miles long and about three miles wide, and was the largest of an island group. It was known to the French people as L'lle Derniere.

The owners had cleared away most of the protecting oak groves to enhance the appearance of the magnificient establishments of this fabulous resort island, which was the most popular in all Louisiana. This was their undoing, it is said.

Last Island was not only the most celebrated island of the group, at this time, but it was also the most fashionable watering place in the entire aristocratic South. Its beautiful beach resembled the beaches of Grand Isle, Biloxi or Pensacola of today.

A charming village of summer cottages faced the Gulf of Mexico near the western end of the island and there was a huge, two-storied hotel with the most lavish accommodations of any of its day. The dining room was 365 feet long and the dancing hall almost as large.

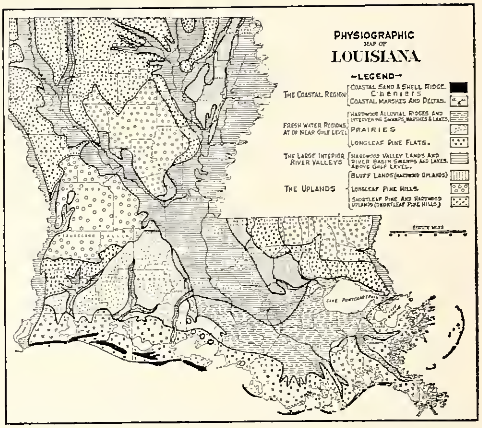
A storm-lashed sea ripped the island one night. Fields, gardens, cottages, the hotel and all human habitat as well as most of the inhabitants vanished into the sea, leaving Last Island the desolate waste that it is today. There has never been an attempt to restore its former place in the life of the luxury-loving Creole aristocracy.

Old inhabitants of the coast say their grandparents blamed the disaster on the cutting of the cheniers which would have protected the visitors and inhabitants. Last Island today is a slowly vanishing outpost of land between Louisiana and the Gulf of Mexico. It is inhabited by sea birds, fiddler crabs, and the memories of a once happy island colony of vacationers.

Visitors today occasionally come across a piece of rotted timber, a broken or moulded brick, or pieces of the skeleton ribs of the steamer "Star", the last ship to reach Last Island before it was wiped clean by the hurricane of August, 1856.

On the night of August 9 the many hundreds of merry men, women, and children went to sleep peacefully and without qualm. On the morning of August 11, only one living creature was to be found on the island—a cow. How that solitary cow survived the fury of the storm will be a mystery forever.

Survivors, rescuers, newspaper accounts and countless reminiscences have never been able to agree on the death toll; however, it is estimated that the figure of 320 fatalities is nearest correct.


PHYSIOGRAPHIC
MAP OF
LOUISIANA
—LEGEND—
THE COASTAL REGION
COASTAL SAND & SHELL RIDGE.
Cheniers
COASTAL MARSHES AND DELTAS.
FRESH WATER REGIONS AT OR NEAR GULF LEVEL
HARDWOOD ALLUVIAL RIDGES AND INTERVENING SWAMPS, MARSHES & LAKES.
PRAIRIES
LONGLEAF PINE FLATS.
THE LARGE INTERIOR RIVER VALLEYS
HARDWOOD VALLEY LANDS AND RIVER BASIN SWAMPS AND LAKES. ABOVE GULF LEVEL.
THE UPLANDS
BLUFF LANDS (HARDWOOD UPLANDS)
LONGLEAF PINE HILLS.
SHORTLEAF PINE AND HARDWOOD UPLANDS (SHORTLEAF PINE HILLS)
LAKE PONTCHARTRAIN

Black dots represent known Louisiana Cheniers.

Planted pine trees offer different view at Grand Chenier in western tip of Cameron Parish.

If the cutting of the chenieres on Last Island was not responsible for its devastation, consider Chenier Caminada. According to the late Captain Adrien Besson, a native of Grand Isle, the inhabitants of this chenier were prosperous from fishing and vacationers. Despite the warnings of the Grand Islanders, they cut their oaks for firewood and other uses.

On October 1, 1893 a hurricane devastated the area along the coast from Mississippi sound to Last Island; 2500 people were believed killed. The inhabitants of Chenier Caminada were practically cleaned out. Some were never seen again, and there was a total loss of property.

The inhabitants of Grand Isle who had not cut away their oaks suffered few casualties. They felt only the normal loss of property expected in a hurricane.

Today the beautiful grove of oaks which has so long protected the inhabitants of Grand Isle is still to be seen, having withstood the buffeting of centuries of hurricanes and having preserved the lives of the islanders from the winds and tidal waves: a monument to the protective power of the chenier. ✠

The Bird of the month

Charles Shaw

BALTIMORE ORIOLE

Icterus galbula

IT MAY COME as a surprise to some to learn that this brilliantly plumage bird is a gaily dressed member of common blackbird family. The bright reddish orange on the wing patches, underside and rump, as well as its larger size, set it off from the similarly patterned but drabber colored Orchard Oriole. In the latter of course, the color is a dark chestnut which offers much less contrast to the black on head and back. In these species as in many others there is a distinct difference in coloration between sexes with the female Baltimore Oriole being dusky-grey or olive above and only slightly orange below and with two light colored wing bars. There is, however, considerable variation and some birds may be very much darker than others. The immatures resemble the females in plumage but are duller colored with no black on the throat. The wing bars were mentioned because they serve as a quick means of differentiating these birds from the locally common female and immature tanagers which lack the bars and also have shorter and heavier bills.

Although the Baltimore Oriole has been recorded from Louisiana during every month of the year it is generally considered that the months of April through October represent their normal period of residence in the state. The winter is usually spent in the Central America region. This brings them back into the tropical countries where the majority of the many species normally reside.

Orioles, of course, are noted for their long pendulous nests, swaying in the breeze, and the Baltimore is no exception. The nest structure is well made of closely knitted grasses, long fibers from old weed stalks, etc., firmly fastened in a fork towards the outer end of a limb, usually high above the ground in a tall tree. Large shade trees particularly elms, in urban situations, pecan orchards and similar locations seem to be favored sites in Louisiana.

The four to six grayish or blueish eggs usually show scrawled blackish markings, particularly at the large end. Due to the excellent design and construction of the nest it is practically impossible for the eggs to fall out, even when high winds are whipping it wildly about.

In common with the majority of the members of the blackbird family the Baltimore Oriole is quite vocal, have a melodious whistled song. There is a wide variation between individual birds in tone, quality and pattern of song and it is sometimes possible to recognize particular individuals by their distinctive songs.

The food habits of the Baltimore Oriole, as is true of most of our songbirds, are largely beneficial, being primarily insectiverous. Some fruits and other types of food may be taken occasionally when easily available.

Due to its nesting habits this bird could not be expected to occupy man-made bird houses but even without this inducement it does not seem adverse to being a close neighbor and its beauty and habits would classify it as a good neighbor.

Louisiana Has Millions of acres of Priceless Wetlands

From the air, the vast expanse of Louisiana wetlands is a sea of green and brown marshes, laced with canals, potholes and lakes—offering priceless winter sanctuary to millions of winter migratory birds. In the marshes of Louisiana, millions of waterfowl and non-game birdlife find the sort of wetlands unexcelled in any other state. *(Photo by Jack Britt)*